

Amendments to the Specification:

Please replace the paragraph in the specification at page 7, lines 6-16, with the following corrected paragraph:

The filter media of the present invention is capable of absorbing a variety of contaminants from a fluid stream, such as an air stream. The filter media may be used in an industrial setting, to combat chemical warfare, or in any other application requiring the removal of one or more contaminants from a fluid stream. Examples of contaminants that may be removed from a fluid stream using the filter media of the present invention include, but are not limited to, 2-vinylpyridine, caproic acid, nicotine, ammonia, toxic industrial chemicals, cresols, acetaldehyde, ethenylpyridines, ~~pyridine~~, chlorine, pyrrole, pyridine, environmental tobacco smoke, sulfur oxides, nitrogen oxides, hydrogen cyanide, amines, carboxylic acids, inorganic acids, and chemical warfare agents.

Please replace the paragraph in the specification at page 11, lines 24-29, with the following corrected paragraph:

In addition to the organic acidic/basic polymers described ~~baove~~ above, inorganic acidic/basic polymers may also be used in the present invention as a suitable sorbent material. Suitable inorganic acidic/basic polymers include, but are not limited to, sol gels and ormosils (i.e., organically modified sol gels), wherein acidic or basic groups are covalently bonded throughout the sol gel or ormosil molecular structure.

Please replace the paragraph in the specification at page 12, line 32 through page 13, line 15, with the following corrected paragraph:

The filters of the present invention may comprise one or more of the above-described polymers for use as the absorptive system. In one exemplary embodiment of the present invention, the absorptive system used to form filters of the present invention comprises one or more of the above-described acidic/basic polymers in combination with one or more additional components, wherein the additional components may include other polymers (i.e., hygroscopic polymers, neutral, non-hygroscopic polymers, etc.) and/or optional additives described below. Typically, the absorptive system used to form filters of the present invention comprises from about 5 percent by weight (~~pwb~~ pbw) to

100 pbw of one or more of the above-described acidic/basic polymers in combination with from about 95 ~~pbw~~ pbw to 0 pbw of one or more additional components, based on a total weight of the absorptive system. Desirably, the absorptive system used to form filters of the present invention comprises from about 5 percent by weight (~~pbw~~ pbw) to about 50 pbw of one or more of the above-described acidic/basic polymers in combination with from about 95 ~~pbw~~ pbw to about 50 pbw of one or more additional components, based on a total weight of the absorptive system.

Please replace the paragraph in the specification at page 19, line 27 through page 20, line 16, with the following corrected paragraph:

An exemplary filter media comprising a housing is shown in FIGS. 1a-1b. As shown in FIG. 1a, exemplary filter media 10 comprises sorbent material layer 11 partially enclosed and supported by housing 12. In this embodiment, a fluid stream, such as an air stream, flows through filter media 10 entering front surface 21 and exiting rear surface 22. FIG. 1b provides a cross-sectional view of filter media 10 along line A-A as shown in FIG. 1a. As shown in FIG. 1b, exemplary filter media 10 comprises first sorbent material layer 11 and second sorbent material layer 13 partially enclosed and supported by housing 12. First sorbent material layer 11 comprises first nonwoven support 14, first polymer matrix material 15 coated onto first nonwoven support 14, and first scavenging agent 16 distributed throughout first polymer matrix material 15. Second sorbent material layer 13 comprises second nonwoven support 17, second polymer matrix material 18 coated onto second nonwoven support 17, and second scavenging agent 19 distributed throughout ~~first~~ second polymer matrix material 18. In this exemplary embodiment, first polymer matrix material 15 may be the same as or different from second polymer matrix material 18, first scavenging agent 16 may be the same as or different from second scavenging agent 19, and first nonwoven support 14 may be the same as or different from second nonwoven support 17. As shown in FIG 1b, gap 24 physically separates first sorbent material layer 11 from second sorbent material layer 13 to prevent possible proton transfer between first sorbent material layer 11 from second sorbent material layer 13.

Please replace the paragraph in the specification at page 20, lines 17-28, with the following corrected paragraph:

A further exemplary filter media comprising a housing is shown in FIGS. 2a-2b. As shown in FIG. 2a, exemplary filter media 110 comprises sorbent material layer 111 partially enclosed and supported by housing 112. In this embodiment, a fluid stream, such as an air stream, flows through filter media 110 entering front surface 121 and exiting rear surface 122 (see FIG. 2b). FIG. 2b provides a cross-sectional view of filter media 110 along line B-B as shown in FIG. 2a. As shown in FIG. 2b, exemplary filter media 110 comprises first sorbent material layer 111 partially enclosed and supported by housing 112. First sorbent material layer 111 comprises support 114, polymer matrix material 115 coated onto support 114, and scavenging agent ~~116 (not shown)~~ distributed throughout polymer matrix material 115.

Please replace the paragraph in the specification at page 27, lines 7-22, with the following corrected paragraph:

To maximize the effectiveness of a given scavenging system, it is desirable for there to be both a kinetically acceptable rate of reaction, and sufficient thermodynamic driving force. While the thermodynamic driving force can, in principle, be provided simply through concentration effects (i.e., increased concentration of a given acidic polymer, basic polymer, and/or scavenging agent within an absorptive system), at least some scavenging systems inherently possess a significant heat of reaction. An additional benefit of hydrophilic polymer matrices is that any heat generated by the scavenging reaction is absorbed by the large amount of contained water, thus limiting any temperature rise. In addition, vaporization of water from the polymeric matrix will further compensate for any heat of reaction; thus, these systems are expected to inherently possess a temperature-control feature. This feature minimizes and/or eliminates the need for incorporation into the filter design of specific heat-radiating members, such as those disclosed in known adsorptive-type filtration systems.

Please replace the paragraph in the specification at page 29, lines 6-20, with the following corrected paragraph:

A Thermogravimetric/Differential Thermal Analyzer (TG/DTA) may be used to determine the water content of the gel. The TG/DTA uses two matched analytical balance arms inside a temperature-controlled furnace to measure weight loss versus

temperature of small samples. Aluminum sample pans, approximately 2 mm in size, are used to hold the samples. An empty pan is placed on one of the balance arms for a reference and an empty pan is ~~place~~ placed on the other balance arm in order to tare the instrument. The sample pan is removed and a small sample having a sample weight of approximately 10 to 50 mg is placed in the sample pan. The furnace is sealed around the balance arms and a flow of argon is established through the furnace in order to create an inert environment and sweep gases produced during the analysis. The analysis is started and the furnace ramps from 25°C to 400°C at 25°C per minute. The computer records weight loss versus temperature to produce a graph that can be analyzed to determine free and bound water loss.

Please replace the paragraph in the specification at page 31, lines 18-22, with the following corrected paragraph:

A filter was prepared using polyethyleneimine as the basic polymeric sorbent material. 150 ml of an aqueous solution of ethoxylated polyethyleneimine (37% solids, 80% ethoxylated) (weight average molecular weight of 70,000) was combined with 75 ml of methanol and mixed in a mixing vessel. The mixture was ~~blending~~ blended for about 3 minutes.

Please replace the paragraph in the specification at page 32, lines 6-10, with the following corrected paragraph:

A filter was prepared using polyacrylic acid as the acidic polymeric sorbent material. An aqueous solution containing 50 mg of polyacrylic acid (weight average molecular weight of 240,000) per ml of deionized water was prepared in a mixing vessel. The mixture was ~~blending~~ blended for about 3 minutes.

Please replace the paragraph in the specification at page 32, lines 21-24, with the following corrected paragraph:

A filter was prepared using the procedure as outlined in Example 1 except 25 g of polyacrylamide (weight average molecular weight of about 1 million to about 50 million) was added to the mixture. The mixture was ~~blending~~ blended for about 10 minutes.

Please replace the paragraph in the specification at page 33, lines 17-22, with the following corrected paragraph:

A polyethylene glycol mixture was prepared using 25 g of polyethylene glycol in 100 g of deionized water. The polyethylene glycol mixture was ~~blending~~ blended for about 3 minutes. The polyethylene glycol mixture was then oversprayed onto the coated glass beads to form an overcoating, which encapsulated the polystyrene sulfonic acid coating. The resulting beads were allowed to dry overnight.